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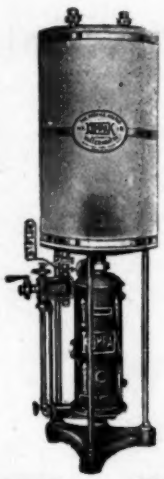

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COAL AND COKE HANDLING PLANT

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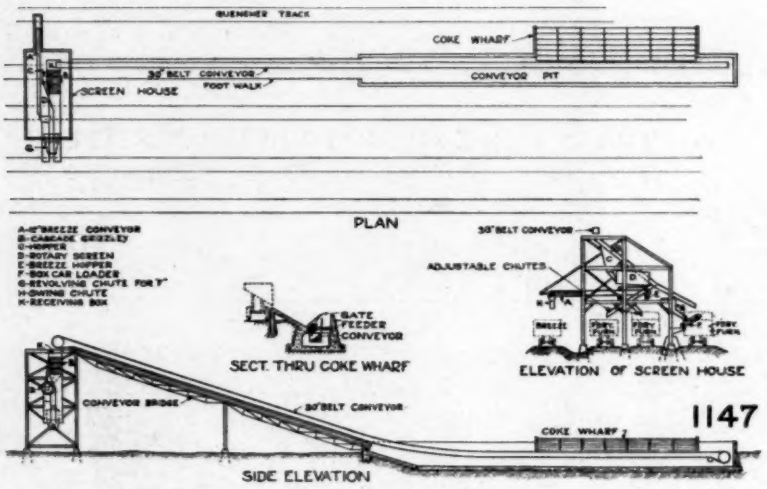

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Vol. CX, No. 13 NEW YORK, MARCH 29, 1919 Whole No. 3186

The Ability to Talk People Out of Purchases Not to Be Classed as Salesmanship

Inroads of Electricity into Gas Lighting Business to a Considerable Degree Traceable to the Habit of Selling Gas Lamps Rather Than Gas Lighting

By J. E. BULLARD

The day has long since passed when just being a good fellow, the telling of a hard-luck story, or a brilliant display of glittering generalities will sell goods. People now demand facts. There are so many concerns now meeting this demand of the public by giving it hard facts about that which they have to market, that the concerns depending upon the old good fellow, hard luck or glittering generality methods of selling have little chance left.

Electricity in itself has not hurt gas lighting to the extent that it has been hurt by sending out salesmen of the old type, by sending out men who were hired solely for disposing of the lamps or for getting them into service, salesmen whose income depended upon the number of lamps disposed of and not in even the slightest degree upon the satisfaction given to the customer.

It never pays to secure new customers if in the very process of securing them you are building up grievances which are bound to result in dissatisfaction.

Gas lighting installation after gas lighting installation has been made by light users only to discover that it was not entirely satisfactory, that it did not come up to the promises of the salesman.

When the salesman is looked for it is discovered that he has passed on to another town.

He was in town only a few months during a campaign put on by the gas company. It was his business to get the lamps into service. It was up to the gas company to keep them in service if it could. Often it could not.

Men Themselves Not to Blame

These men who have sold the lamps cannot be blamed. They have done exactly what they have been hired to do. They have put out the gas lamps. Their income has depended on the number of lamps they could get rid of.

It made no difference in the commission paid whether the customer was satisfied or not.

The salesman could not afford to spare the time to go back and find out.

His business was selling lamps pure and simple.

He showed his business ability by adopting the methods that would result in the greatest possible return to himself. That is the method that any good business man adopts. If the gas company lost it was no concern of his. It merely showed that it was not as good in driving a bargain as he was.

The unsatisfactory after effects of the campaigns were not entirely due to the salesmen employed. In fact probably these salesmen were less to blame than anyone else.

The installation work may have been done by men not thoroughly qualified to do work of this nature. No regular gas company salesman followed up the installation after it had been made and saw to it that the changes required to make the installation satisfactory were made.

If a salesman did come around he may have acted the good fellow and not given the customer any hard facts or shown any businesslike reason why the lamps should remain in service. Perhaps he did not know any.

Selling the Idea, Not the Lamp

The worst that could happen would be to send around a man of the type that sometimes gets into the commercial departments of a public utility company. A man who is a relative of some officer, or the friend of some politician who is wished onto the commercial manager, who in turn lacks the courage to get rid of him. Such a near salesman is usually a very fluent talker. He is so fluent that he could talk a man who was all ready to mail a letter home for money out of buying a postage stamp. Unfortunately, however, this type of salesman cannot reverse the process—he can never talk a man into making a purchase. He always talks people out of them rather than into them.

Up to date comparatively little work has been done along the line of selling gas lighting. It has been selling gas lamps, sending out good fellows whose fanciful and glittering general statements serve to disgust the prospect and tend to cause him to reduce his gas consumption along other lines as well as that of lighting.

There are a lot of good hard lighting facts that should be given to the customers. There is enough of these so that there is no necessity of going back to the old methods of salesmanship. The men who are most successful in selling advertising and the advertising mediums securing the highest rates for their space do not attempt to sell space first. That which is sold to the prospect before anything else is attempted is advertising. The idea of advertising once having been thoroughly sold, the matter of space is only a question of taking the order. The *Saturday Evening Post* has concentrated upon selling advertising rather than space to a very remarkable extent. It is now receiving more advertising orders than it has space to sell.

If gas companies and gas company salesmen will sell the idea of good lighting first it will not be very difficult to sell and keep sold gas lighting. Where gas lighting is sold on the plea that it is cheaper than electric lighting and the selling of the good lighting idea is left entirely to the electric light salesmen, is it any wonder that more and more light users are turning to electricity?

Some Actual Facts

Here are some facts that can be used to advantage when selling the good lighting idea.

Labor is becoming more and more insistent upon better working conditions and high wages. It is necessary in order to provide the better working conditions to give the workers better light. There are many spots in every business establishment, whether it be a factory or a store, that must be lighted throughout the day. Labor is going to demand this light as a matter of safety and comfort if it is not used sooner. The high cost of labor means that greater production must be secured in order to meet this cost. Experience has proven that plenty of light increases production. Statistics already gathered together indicate that not less than two per cent of the cost of labor can well be invested in artificial lighting. Less than that percentage is likely to result in lowered production.

Statistics show that the intensity and quality of light used has a very marked effect on the number of accidents. There are more accidents during the winter months when the days are short than during the summer months when they are long. The more artificial light used, if this light comes from a diffused light source which reduces the amount of glare so that daylight effects are approached, the fewer the accidents. In presenting this point light qualifications can be used which will make the customer trend to lean towards gas lighting. The one thing that he must guard against if he wishes to reduce the number of accidents is glare. Glare may cause accidents where none would result if there were no lights at all.

The effect of glare can be seen in exaggerated form by watching a person in front of glaring automobile headlights. Everyone who has driven a car to any extent know how helpless people become when caught squarely in such a glare, how they dodge about in the utmost bewilderment, and are as likely to jump into danger as out of it. Glare in less intensity has the same mental effect upon people and makes them unfit to avoid danger. For this reason, if for no other, glaring light sources should be avoided. The safest course is to use only such light sources as are freest from glare.

Building Up Productive Capacity

Investigations which have been made show that about 25 per cent of all industrial accidents are directly traceable to poor lighting, and indicate that a great many more are due indirectly to the lighting conditions. This is what is bringing about the passing of laws requiring a safe amount of lighting in every industrial establishment. Plenty of light, however, may not serve the purpose. Quality must be considered as well as quantity, and quality means light sources as free as possible from glare.

Production is bound to increase when plenty of good light is used. As a result of the study of 250,000 industrial plants having a total annual production of $20,000,000,000, it was estimated that a saving of $400,000,000 could be effected through efficient lighting. This saving would be the result of the effect upon the workers. It would relieve their eyes. Many concerns find it necessary to do the high-grade work in daylight on account of the eye strain under the artificial light. There is not that confusion of mind, and a more or less realized feeling of fear where good light is used as exists where there is inadequate light or light that is too glaring. To learn just what this feeling is that results from too little or too glaring a light step in front of the headlight of a trolley car, locomotive or automobile. For the sake of being able to use the knowledge gained from the experience, it will be well to have someone handy to pull you out of danger in case your state of confusion becomes too great.

People can never be as cheerful in a dark gloomy place as in a bright cheery one. Workers in a dark gloomy place cannot produce as much as those in bright cheery ones, because they lack the enthusiasm that comes from cheerfulness.

These are only a few of the facts that can be given to light users. The time to begin to use them is months before light will have to be used to any great extent. It doesn't take any great degree of salesmanship to sell food to a man who has money and is half starved. It doesn't take any great degree of salesmanship to sell gas lighting to a man who has got to have gas lighting or close up his establishment. Selling goods requires a certain amount of time and presupposes that the prospect has not already decided to buy. In order to sell gas lighting it is necessary to begin work on the selling of the lighting idea now when little light is necessary, and when there is time to do some real selling work and not merely fill orders.

Reappoint Chairman and Member of Missouri Commission Despite Opposition

Governor Gardner of Missouri has reappointed William G. Busby as chairman and Edwin J. Bean as a member of the Missouri Public Service Commission, despite the strong campaign against their reappointment waged by certain members of the State Legislature. R. Perry Spencer, of St. Louis, now actuary of the State Insurance Department, was appointed Chief Counsel for the commission.

With 550 B.t.u. Gas at 35 to 50 Cents a Thousand Not Even Producer Gas Can Compete as Industrial Fuel

E. J. Caspers Outlines Some of Unusual Installations Secured by Gas—Possibility of Company Now Doing $500,000 Business Attaining the $2,000,000 Level with No Further Growth in Its Territory

A modern gas company would be one that carbonized local coal, sold large quantities of gas at a fair profit so that everyone would be anxious to use it, developed a local market for its coke, and through a live research bureau and sales department found a market for its various by-products, thus building up a business of such magnitude, diversity and permanence that its customers would be satisfied with the prices charged for the products and investors would be attracted to its securities, declared E. J. Caspers in his paper, "Industrial Gas as a Tonic for Utility Companies," presented at the recent annual convention of the Illinois Gas Association.

Thus a gas company which under old methods did an annual gross business of $2,000,000 annually in a community of 300,000 people, with 60,000 customers, would under the new plan do an annual gross business of $8,000,000 in the same community.

Similarly, a smaller company in a town of 15,000 inhabitants, with, say, 3,000 customers, would do an annual gross business of $2,000,000 instead of being satisfied with $500,000, as most of them are now.

A company with 600,000 customers would do an annual gross business of $80,000,000.

Big business pays. It attracts high-grade men to it, and they stick because the company can afford to pay them what they are worth. Big business is favored by investors, because they are willing to loan their money at lower rates than in a smaller enterprise.

The carbonizing of coal in large quantities has been talked of for years, but that is all that has been done by most gas companies. However, some interests did not wait for one hundred years to see the immediate need of such. One of the largest plants of this kind is located in Minnesota. They sell 6,000,000 cu. ft. of gas per day and all of their coke is marketed near the ovens. Another example is a gas company in Ohio which has recently completed a by-product plant supplying 13,000,000 cu. ft. of gas per day to only seven customers. The coke is disposed of locally.

Selling Gas the First Step

Selling the gas is the first step. The other products can be stored temporarily or shipped to other markets if necessary. Pick out the big customers first. The little fellows will follow.

Michigan and Ohio have done more to promote the sale of gas than any of the other States. This, possibly, is true along other lines. The reason, of course, is the automobile business. The largest sales have been recorded from there. This does not mean that they have any better salesmen or larger customers than elsewhere, but they went out after this business with good salesmen and gave the customer a desirable and efficient fuel.

The time is very close at hand when there will be many changes in the gas business. This must be. Much has been written about the sale of this commodity, but there are no men that can sit back in an easy chair and sell this fuel to a customer, or can look out at the holder and sell it from observation; neither can they sell it over the phone in the same manner that solid fuel is sold. It takes something else, and that something else is salesmanship. I have been asked a thousand times how it is done. The only explanation I can give is that two minds collide. Speak quick to a quick-spoken man; be adjustable, approaching your prospect in the proper manner; keep his attention when you are talking to him; let him say something, don't be a machine gun; place yourself in his position; do not leave until you have told him something; do not forget him, but call again; show him where it is profitable for him to do business with you.

Personality Goes a Long Way

Personality takes you a long way. In closing do not get nervous. Some call the finishing point the psychological moment. After you have sold the customer do not leave him in mid-ocean, but call on him often and help him solve his many problems. Forget cost and talk service to get business quickly. Gas fuel makes money for your customer as well as the gas company, and it is the final cost that counts.

I believe that gas is the hardest thing in the world to sell. Why? Because, in the first place, you do not carry a sample of the article you wish to sell. To make this plain, let us say that Mr. Salesman drops in a large foundry. He goes to the office and, upon explaining his business, is admitted. On going through the plant he finds a battery of core ovens equipped to burn coke, oil or powdered coal. This installation has cost a considerable sum and you want to change it—of course you do; that is what you went there for. You go back to the office and see the superintendent, and suggest to him that he arrange to visit some near-by foundry now using gas.

Something More than Merely Knowing Your Commodity

Well, right here, in a good many instances, is where the trouble begins. The superintendent tries to stall you by saying that he is too busy to get away. The average salesman will be persistent and keep

after him, and at the same time get himself a long way from his goal. But if he would have said after Mr. Foundryman stalled: "Well, if you do not want to go there I may be able to get you in the American, the Federal or the Standard," you could have got him to go. I usually name a number to him and let him do the picking. At the same time, in naming places, I watch the expression on his face, and you will soon find out the places where visiting back and forth goes on or the one he would like to go to.

One plant I have in mind in our territory that was about as peculiar as any that I dealt with was where they repaired railroad equipment. The superintendent was a very conservative person. After getting his permission to place a trial furnace on the job to show him, I sent over one that could be used for annealing the ends of flues and for heating rivets when not in use at the former. The first day they tried the flues the gas furnaces did so much better and faster on gas than on oil that when I returned late in the afternoon the next day they had the whole plant piped and the furnace on wheels. That settled the question of what gas could do. They set tires, burn paint, straighten frames, melt brass, temper tools, heat office, do soldering and do some lighting. Our salesmen now say that this particular superintendent "gases" all prospects that are brought there for the purpose of seeing the installation.

A large saw works that formerly used other fuels now has a 6-in. service with a minimum of 18,000 cu. ft. per hour and a maximum of 30,000, with a 6 and a 4 in. line running to seven furnaces, two of which handle 72-in. round saws, the other taking care of cross-cut saws 84 in. long. The other furnaces handle all sizes of smaller saws, all having a temperature range from 700 to 1,900 deg. Fahr. The plant also has an equipment of japanning ovens, besides furnaces in their tool room, glue heaters, soldering irons, hotel ranges, pastry ovens and gas water heater. Their dry kilns are on gas-fired boilers. This is the outcome of going to see your customer often and not leaving him in mid-ocean. I think that all this business took twelve different sales.

Selling Gas Heat with Winter's Coal Already in Bins

A large installation of gasteam radiators was made in a plant taking care of 4,500 sq. ft. of radiation. This was accomplished after a hard fight with four boiler companies who were on the job all of the time. Prices were very close. They had enough coal on hand to run them all winter, and with all of this opposition the gas was installed.

A large chemical works in our territory uses 15,000,000 cu. ft. of gas a month in place of soft coal.

Also a manufacturer of rolled-steel car wheels uses 2,000,000 cu. ft. of gas per month to heat the steel blanks. He formerly used soft coal.

A plant making milk cans and churns formerly heated its large tinning bats with soft coal and now heats these with gas, and it takes about 1,000,000 cu. ft. a month.

A mill making galvanized pipe uses 5,000,000 cu. ft. of gas per month heating its big galvanizing tanks. It formerly used soft coal.

I just mention these to show you that gas will even compete with the cheapest of fuels—coal. I could mention a number of such cases in our territory, but space does not permit. There are hundreds throughout the United States.

By-product gas of about 550 B.t.u. at 35 to 50 cents per 1,000 cu. ft. has no competitors except in communities where cheap natural gas is available. It is folly to compare this gas, on a heat-unit basis, with producer gas, coal, coke or oil, because the efficiency of oven gas is so much higher than any of these other fuels that when the final results are examined we find it cheapest per unit of finished product.

Weak Points of Producer Gas

As an example, it takes seven times as much producer gas of 120 B.t.u. as oven gas of 600 B.t.u., when the overall efficiency of the furnace is concerned, whereas, on a heat-unit basis, the 120 B.t.u. producer gas would figure but one-fifth as good as 600 B.t.u. oven gas. The difference between practice and theory is that producer gas has about 65 per cent of inert gases which have to be heated to furnace temperature, and this heat is lost up the flue. Furthermore, producer gas has only a small amount of hydrogen gas, which makes it difficult to ignite. Oven gas has a high percentage of hydrogen, which makes its combustion intense.

Likewise, solid fuels must be gasified before combustion will take place, and cannot be burned unless an excess of air is admitted. It takes heat to gasify the coal and to raise this excess air to furnace temperature. Oven gas can be burned with just the right amount of air.

When fuel oil is burned it must first be atomized and then gasified before combustion will take place. This process absorbs heat. This, in a way, accounts for the fact that in average practice it takes 10 gal. of 120,000 B.t.u. oil to do the work of 1,000 cu. ft. of 600 B.t.u. gas, when, theoretically, only 5 gal. of oil are needed. After the oil is atomized by expensive compressed air or steam, or by putting the oil under high pressure, it must still be gasified by its own heat. These atomizing agents add to the cost of the oil at the burner.

Powdered fuels will never be serious competitors of oven gas on account of the operating expense and trouble of pulverizing and difficulties of the process, such as ash, slag, sulphur, etc.

All these items can be explained to your prospective customer if he hesitates about allowing you to make a demonstration to prove what oven gas will do.

I do not want to bore you with a lot of details on how to get the business, but I assure you it can be done if you know how.

Keep Gas in Front of Them Always—Even from Infancy

One of the most important cogs in the selling machine is the gas engineer. His duty is to check over the work of the salesman and assist him in any tests that might be necessary to prove gas superior to other fuels. He is often called upon to design new gas-fired equipment or to make some changes in the customer's method of operation.

Get your customers and prospective customers to join some gas association, also to subscribe for first-class gas journals, and in other ways keep the word "GAS" in their minds. See that the local schools

and colleges have gas appliances, because the future plant superintendents get their starts in the schools. Talk gas in your local engineering societies, clubs and manufacturers' associations. Newspaper and trade journal advertising are big features.

I would urge upon the new-business department the importance of being in complete harmony with the operating department, for when you are, as I may say, on "speaking terms" with the men in that end of the game you are in a position to bring to a speedy completion the installation of piping and appliances that you have labored so arduously to add to your lines. The speed displayed will have a lasting effect upon the customer and any additional business that he may require will be more easily brought about when he considers that you have rendered him service in all that the word implies. For you must not allow yourself to believe that after you have obtained the signature of your customer on an order that your work is finished, because until the installation is completed you gain none of the glory that is rightly yours. That is the point I want to make when I say that harmony should exist between all departments and that each should share in the success that is bound to exist when conditions are as they should be.

And, remember, there are three periods in selling industrial gas. First, get the business; second, hold it by frequent visits to the customer to see that everything is just right. The second leads to the third, which is to increase the business with the same customer. You are a part of the community just as he is, and he will soon go to you when he has a problem requiring heat.

Without industrial gas the load factor of your business is about 6 per cent. With your share of the industrial gas business in the community your load factor will be over 40 per cent. In the first instance the biggest part of your investment is working only 6 per cent of the time. With industrial gas you get 40 per cent out of your investment. Your turnover is correspondingly greater.

In closing I will say that although you have been in business for a hundred years, don't think that you have all the business you can get. **Take some industrial gas "tonic" and see yourself grow.**

NORMAL LIGHTING BILLS

BASED UPON THE DARK HOURS BETWEEN 6 A. M. AND 10 P. M.

Average Number of dark hours per day in Month between 6 A. M. and 10 P. M.		Month.	Increases by Months.	Increases over June-July.	Amount of bill based on bill of $1 for June-July.
Hours	Mins.				
7	0	Jan.	31% over Feb.	250%	$3.50
5	20	Feb.	27% " Mar.	166%	2.66
4	9	Mar.	34% " Apr.	110%	2.10
3	7	Apr.	30% " May	56%	1.56
2	25	May	20% " June-July.	20%	1.20
2	0	June	base	base	1.00
2	2	July			1.00
2	41	Aug.	34% " June-July.	34%	1.34
3	36	Sept.	34% " Aug.	80%	1.80
5	8	Oct.	42% " Sept.	156%	2.56
6	22	Nov.	24% " Oct.	218%	3.18
7	25	Dec.	16% " Nov.	270%	3.70

He Forgets the Unimportant Departures from the Usual—Hence the Higher Bill Complaint

Recording the Domestic Life on the Gas Meter—Liability of Consumer to Forget Little Breaks in the Routine of Existence that Contribute to Higher Bills

In the daily routine of a gas company's business there is one thing prevailing over most other of its operations which is recurrent at this time of year, and seems to continue in almost arithmetical progression until the cold and dark weather of our rainy season merges into the more balmy and lighter days of spring, and that is the complaint of excessive bill, declares Charles L. Barrett, in an article in *Pacific Service Magazine* for February.

There are several things the worthy consumer does not consider in gas bill increases, especially if the gas has been used exclusively for lighting, and one is that bills vary materially between winter and summer. This would likewise apply to electric lighting.

Theoretical tables figured carefully upon a basic day of from 6 a. m. to 10 p. m. show necessities for light to be as shown in the accompanying table, and it is quite natural that charges should be in accordance therewith. June and July are practically equivalent in the matter of light requirement, and are the months of most daylight, there being but two hours per day of darkness between the hours above mentioned, i. e., from 8 to 10 p. m. The other months show increases over that, including the necessity for morning lighting up to 7 hours and 25 minutes per day in the month of December. The table illustrates all this, the percentage of increase as between the months, and the percentage that each of the other months exceeds the June-July month, all based upon the calendar time of sunrise and sunset, but not upon actual weather conditions.

OTHER MEANS FOR THE COMPANY TO PROVE ITS CHARGES

If argument by the company's adjusters along the lines of the above table will not suffice to convince a consumer as to the probable correctness of the bill, then there remain two things the company can do to prove its charges. First, the testing of the meter, which has to be done at the company's shop, and which if not done in the presence of the consumer is not satisfactory to him, and second, the installing of a recording test meter. This latter is really the "motif," as is fashionably said, of this article.

The recording meter has in conjunction with its dial mechanism an eight-day clock which revolves a drum upon which is mounted a chart blank, ruled sectionally into hour periods, over which passes an inked pen. The pen progresses spirally over the paper as the period of installation proceeds, and is caused to register a small mark at right angles to the length of the chart every time such quantity of gas passes through the meter as is warranted by a single revolution of the spindle that actuates the hand of the test dial. This depends upon the size of the meter used and may be five, ten or twenty cubic feet. The recording meter is always set in series, or in tandem, popularly speaking, with the regular meter, and being under continual test

for correctness, proves without question any faulty registration of the regular meter at the end of the test period, which is usually about five or six days.

Actual Periods When Used

In addition to this comparable registration of both meters for the total period, the recording meter shows by its chart markings the actual moment of the period when the gas, in small quantities of five, ten or twenty feet, according to the size of the meter, was used. The total number of markings multiplied by the cubic feet represented by each mark should equal the total quantity shown by the recording meter and always does so, barring pen accidents, which are rare. The resultant chart of this meter is almost invariably satisfying to the consumer in proving the correctness of bills, provided the consumer's own meter is not faulty in registration, and, of course, this feature is incidentally proven and cared for by adjustment.

The routine incident to chart making was about as follows: Mr. Consumer, thinking his September bill excessive, called at the company's office and wished the charge investigated. Being of a suspicious turn of mind, he wanted some sort of a test of the meter in place rather than to have the meter taken away and tested at the company's shop. Conditions at the premises were found to be as follows: Gas used for cooking, water heated by automatic heater, occasional air heating in cold weather, electricity used for light in combination fixtures where gas also was occasionally used. The family consisted of husband and wife and a grown son and daughter. A man was hired once a week for the windows and heavy cleaning, a laundress coming in Mondays. The report when the complaint was made was the usual one, that "we use the same amount of gas month in and month out, home conditions are always the same, gas is not used for lighting so that the hours of daylight would not affect it," etc., etc.

The telltale chart records the following: Primarily it shows that it was connected upon Friday at noon and disconnected the following Thursday at noon. Then it shows at least during the week in question, just when the family rose and breakfasted, there being no gas used before 6.20 a. m. (see chart) and considerably used immediately after that time except upon Sunday, when gas commenced to be used at 8.30 a. m., indicating a later breakfasting hour upon that day. Then a larger and earlier usage upon Sunday after than was usual upon week days. This proved out upon submitting it to the complainant to have been caused by an earlier dinner hour with company, a large roast, entrees, and more hot water used than ordinarily. Again, the week-day dinner hour cookery started at about half-past five, the chart marking commencing at that time denoting the fact. Upon calling consumer's attention to the unusual usage upon Wednesday afternoon he thought that our meter was certainly at fault, but upon conferring with his wife it developed that a number of friends had called and that they had had tea and toasted muffins at a little after 3 o'clock, just as indicated. The large usage upon Friday night between 11 and 12 o'clock, Sunday between 11 a. m. and 12 noon, and upon Tuesday night between 9 and 10, proved to be extra hot bath moments when the continuous usage during Monday forenoon was due to the larger use of hot water and the use of gas for heating irons. The family washing called for this, as understood from the consumer's original statement, but he was surprised to hear that the quantity was so great. The gas used Monday forenoon, 195 cu. ft, was 90 feet greater than on Sunday, the next greater showing. Sunday being naturally supposed to be the day of least consumption, the chart, however, showing that it was not. Record marks showing five feet used in long periods of time in the late evening and early morning hours were caused by the accumulations of about one cubic foot per hour for gas used by the automatic water heater torch light.

Of course, this evidence is as direct as possible, being shown by an inanimate measurer and, therefore, convincing. It shows the variance between the amounts of daily usage, the forenoon and afternoon usage. Finally, the similar showing of the regular meter and the recording meter, both of which set in a series have separately registered the same amount of gas, upsets the consumer's impression that his gas usage should be practically the same "month in and month out," there being a variance possibility in this single week as between 175 cu. ft per day or 5,250 cu. ft per month, and 275 cu. ft. per day, or 8,250 cu. ft. per month.

The result of this investigation, together with a copy of the chart transcription, is always mailed to the complainant.

Natural Gas Wells Near Staunton, Ill., May Become Exhausted According to Report

The natural gas wells near Staunton, Ill., used as a source of supply by the St. Clair (Ill.) County Gas & Electric Company of Belleville, Ill., may become entirely exhausted at any time, according to a report by A. S. B. Little, engineer for the Illinois Public Utilities Commission, made to municipal authorities at Belleville.

The report says that 75,000,000 cu. ft. of gas was sent by the St. Clair company to East St. Louis, Ill., in 1918, to be used in the manufacture of artificial gas at lower cost there. If the gas sent to East St. Louis was diverted from Belleville's gas supply, Mr. Little said, the gas company might be held responsible for the poor gas service at Belleville.

The gas engineer's report, however, justifies the low pressure service of the St. Clair company regarding which numerous complaints have been made to the State commission. His report says that the Geological Survey notified the owners of the Staunton wells that they would be exhausted in five years. The gas supply at these wells is so low now, Mr. Little says, that it may be cut off entirely with only a few hours' notice.

Another hearing relative to the gas situation has been announced by the Illinois Public Utilities Commission.

West Virginia Company Wants Uniform Rate

An application was received recently by the public service commission from the Pittsburgh & West Virginia Gas Company for authority to increase its rates. The present rate charged is 30 cents per 1,000 ft. for domestic and industrial purposes, with the exception of Taylor County, where the charge is 28 cents for domestic and 22 cents for industrial purposes. The company asks for permission to charge 32 cents for all purposes in all sections, effective from May 1.

Field Man Tells What He Told Them at Gas Lamp Factory at March Meeting of Gas Sales Association of New England

Has Demonstrated to His Own Satisfaction that the Manufacturer Has a Receptive Ear Towards Suggestions of the Companies — Not Responsible for Backwardness in Bringing Out Super-Price Fixtures

The regular meeting of the Gas Sales Association of New England was held at the Boston City Club Friday evening, Mar. 7th, with Gov. William Gould presiding.

George F. Howland, treasurer of the Massachusetts Lighting Companies, was one of the guests of the evening. He gave an instructive talk regarding the importance of the sales department in gas companies. Mr. Howland's address was keenly appreciated by the members, as he pointed out the fact that the income is derived from the efforts of the sales department, and that the prosperity of a company indicated the efficiency of its sales force.

The paper of the evening was "The Viewpoint of a Field Man Before and After Visiting a Lamp Factory," read by J. B. Anderson, secretary of the association.

Cyrus Barnes, Lieutenant U. S. N. E. F., of the Charles H. Tenney Company, who has just returned from service, gave an intensely interesting description of his experiences.

Mr. Barnes was in active service, and his remarks were much enjoyed.

Mr. Anderson's paper follows:

The Viewpoint of a Field Man Before and After Visiting a Lamp Factory

In order to make my position perfectly clear, I will say that previous to joining the gas fraternity, I had been in electrical work and had become thoroughly imbued with the methods obtaining in that very alert profession.

My work at one time brought me in contact with one of the largest, if not the largest lamp factory in the world, and I was quite familiar with all the details of incandescent lamp manufacturing. I knew the energy and resourcefulness displayed in the research department of this concern, which was striving ceaselessly, not only to perfect existing models, but to develop new ideas, and I was one of the first to make an installation of the larger type of units in a private home.

The impressions I have gained in the gas industry led me to a vague and undetermined attitude toward the producers of similar articles in our industry, and not until recently was it possible for me to realize a long-felt ambition, to get inside of a gas-lamp factory, and I went there with the object of remaining part of a day, and my visit was lengthened to two days. It was a matter of much regret that engagements forced me to leave at that time.

I suppose that my impressions of a lamp factory were not dissimilar to those of other commercial gas managers. I regarded it as a place in which to write letters complaining of overdue shipments and imperfect materials.

When I approached the factory, much to my surprise it was very much larger than I had mentally pictured it, and from the exterior, at least, it was modern in every respect. When I entered the building my first impression was, what a large area and what a comfortable place it was. I had in mind the average gas company display room which usually contains at least 100 per cent more appliances than are needed for artistic effect.

What He Told General Manager

I was escorted by my guide to a room, which was evidently used as a reception chamber, and in a few minutes was taken into the general manager's office, and as I had the accumulated ideas of several years, I thought, at least, that I might have an opportunity to have a heart-to-heart talk with that worthy gentleman.

The lack of up-to-date merchandising on the part of the gas companies I had charged largely to the manufacturers, and I blamed them for not producing appliances equal in appearance and design to those on the market adopted by electrical concerns.

There is a certain and popular type of lamp, which so far as engineering principles are concerned, is a gem, but when it comes to appearance it always reminds me of a fat woman's corset—one just as graceful as the other—and I suggested the advisability of a little less efficiency and a little more artistic lines. The general manager said, "Yes, but that will cost more money." I said,

"Who's talking about money? I am not interested in the cost of it. I want it so artistic that the cost will not be a matter of concern."

My guide, I had been noticing, was beginning to get rather fidgety, and he broke in at this point to inform his superior that I had not been a gas man always, but that I had come up through the electrical industry; that I was not interested in how cheap an article could be produced, but how well it would serve its needs, and that I was accustomed to pay the price necessary to obtain it.

It has long been a hobby of mine to see the magnet valve control developed, as I felt that it was the solution of our one weak point. It is an established fact that for quality of light and economy we have the decided advantage of our rivals, but that from the viewpoint of convenience we are seriously handicapped.

Now this general manager had worked in a lamp factory all his life, and had every detail of that enormous concern in his mind, and I wanted to jolt him hard, so when my magnet valve subject was introduced and he didn't take kindly to it, I told him that the "Push the Button" idea was here to stay, and the "Pull the Chain" method had been discarded from up-to-date bath rooms; that it was a situation we must face.

Before I left him I realized perfectly (and he saw to that) just where the difficulty lay. There is no general demand for appliances of excellent design and artistic finish arranged to function by the "Push the Button" method.

The gas men have created the impression that the adding of an unnecessary dollar to the first cost of a fixture is a crime, and yet this selfsame man adds his overhead, selling commission, and then doubles the price before selling the article to his customer.

Looks Up the Biggest

He extended a very courteous invitation to me to visit the departments, and said that all department heads would be very much pleased to give me any information that I desired.

My guide then said he had made an appointment for me to visit the president, so with a very great deal of eagerness, I went upstairs to meet the head of a concern, transacting possibly two million dollars' worth of business under normal conditions per year.

His office contained as little furniture as one could well imagine to be furnished at all. I believe there was a table in the middle of the room, and not too many chairs, and the door was conveniently open.

Now it is seldom that I have an opportunity of talking with a man in his position, and it was with a good deal of curiosity that I approached him. When I arrived, I think he was trying to locate four or five million dollars, because I could appreciate what an enormous slump there must have been in the production of gas articles, due to existing European conditions, and also to the fact that most of the gas companies were in a somnolent stage during the period of the war.

I tried to tell him as briefly as I could a fieldman's needs, and in order to get his measure, so to speak, I brought up some details of an appliance which they manufactured, and was much surprised to find that he knew every detail of that particular article a very great deal better than I did, and instead of asking questions I very wisely maintained silence, and learned things about that selfsame article.

In the few minutes that I talked with him, I tried to impress upon his mind that it was a crime to place a $2.50 gas lamp in a room where the furnishing cost many hundreds of dollars; also that we would add dignity to our profession as well as earn dividends, if we could have fixtures that were the last word in architectural design; that the gas industry as a whole was not in the habit of changing its fixtures every few years; that the average woman becomes very tired of the same furnishings, and it would seem good merchandising to change our entire equipment in the better class of homes at least every five years, and in making that change we should always improve upon the appearance and design materially, as it is a well-known fact that something which costs very little is not appreciated.

After a very pleasant visit, I was invited to attend lunch in the factory. Now I have worked, as I have mentioned before, in a large factory, and was check No. 449689. I used to form in the rush line, and if sufficiently agile succeeded in swallowing my greasy rations in the time allotted, and I assure you that I did not look forward to this luncheon with enjoyment.

My ideas soon changed. The hall, of ample size, was not crowded, and did not have the deadly odor of garlic. There was a platform on one side with a piano, draped with the national colors. We formed in line, purchased our tickets, selected the food, which was on display, and took our seats.

I have been familiar with the class of people working in the average factory, and it was hard for me to realize when I looked about me that I was in a factory at all. There was not a woman in that factory who did not appear clean and neat. They were far above any factory workers that I had ever come in contact with, and, in fact, impressed me to be more like business women.

Where Distinctions Cease

I looked around with much curiosity, saw the president take a plate and line up for "his" with the rest, and without any more attention paid to him than was given to anybody in the room.

After a few moments the leader started the singing and again I had a pleasant surprise. The singing was in unison and the effect was so inspiring that I promptly forgot to eat and enjoyed the musical program instead.

I found that the girls could eat their own lunches there, and obtain hot coffee or anything else they chose, and that the prices were extremely moderate. In fact, I believe the prices charged would just about cover the cost of the food, and whoever designed that lunch room was an efficiency engineer, because there was no lost motion anywhere.

The making of a gas mantle was always very much of a mystery to me, as I could not fathom how they really did produce it. My first introduction to the rooms where mantles were in process of production was where the mantles were being tied, and it is often the trivial things that comes to one's attention most vividly, and the point that I immediately noticed was that all the rest of the women in the world whom I had ever met, did not know how to handle a pair of shears. Instead of working with the fingers, the cutting motion is executed with the whole hand, and the reason is obvious.

It was always a mystery to me how

(*Continued on page* 283.)

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As the Journal Views It

The One Great Essential to Real Industrial Gas Sales

Industrial gas prospects there are aplenty, even at present gas rates; more perhaps than many companies as now equipped could possibly handle.

But the real days of industrial fuel gas await the radical lowering of gas rates. All boom-time picturings of the gas industry, as it now exists, being the great fuel source of the nation are palpably absurd.

As conditions now are, should they durate, there is little reason to expect downward revision of gas rates for an indefinite period to come, if ever. But this presupposes that we will go on largely, almost exclusively, confining ourselves to the *manufacture of gas.*

The road to cheap gas is not, never has been to a radical degree, increased efficiency in manufacture. This is a road that must be traveled by steps, and is a slow one to journey over to a predetermined destination. And there is a limit to the possibilities of increased efficiency of manufacture.

The great road to cheap gas is the development of by-products. The profits derivable from them will enable us to sell gas at a profit at lower rate than the quantity of coal necessary to produce that gas could be purchased for.

Enlisting the Co-operation of the Plumbers and Dealers

Sentiment in the gas field is swinging toward winning the co-operation of plumbers and dealers in the merchandising of gas appliances.

There have been companies that have not only tried to discourage these people in the sale of gas-consuming appliances but have actually tried to drive them out of the business.

The reason is obvious: It is seldom the appliance that is blamed for poor service or high bills; the custom is to blame the fuel.

Plumbers and dealers are not, in general, expert in points of efficiency or safety in gas-consuming appliances. Not all of them would have hesitated overmuch in selling such an appliance, even if they knew that in the matter of economical operation it was woefully inefficient. They are a large and varied class.

When a gas company has seemed especially bitter toward the plumber and dealer, the reason could usually be traced to its complaint counter.

The AMERICAN GAS ENGINEERING JOURNAL can see nothing but good result in attracting the plumber and dealer to enthusiastic merchandising of gas appliances, provided adequate control can be maintained over the appliances they sell.

Legal control, outlawing the sale of this or that contrivance that does not meet certain specifications, is impractical, since the enactment of such laws, however meritorious, is usually opposed; and we still have politics. Besides, it's too slow a means of attaining contemporary ends.

The plumber and dealer have suggested to us the practical means that lie immediately within our hands. Ask him what his real grievance against the gas company is, the prime handicap to his sale of appliances as a competitor of the gas company, and he will tell you it is the instalment-payment plan. The gas company can finance such transactions. The plumber and dealer, as a rule, cannot.

Since the gas company has the ability to do this direct with the consumer, it is not inconceivable that it should be able to do it indirectly through the agency of the plumber and dealer.

Let it get financially behind the reliable plumbers and dealers of its territory. Inform them that its willingness to do so is predicated essentially on their willingness to act in accord with them on what kind of appliance not to sell.

A big lift is at once given the plumber and dealer in his efforts to sell gas appliances. Further co-operation can be given by an adherence on the gas company's part to a policy of merchandising appliances strictly as merchandisers.

A vast impetus would at once be given to the distribution of gas-consuming devices. A proportionately vast impetus would immediately be given to the consumption of gas.

The merchandising forces of the gas industry would of necessity be vastly increased with little increase in fixed costs.

Such policy would, of course, tend to restrict the size of our own merchandising organizations. It could not, of course, be expected to make them entirely unnecessary.

Somebody Overlooked

A new note, with which the AMERICAN GAS ENGINEERING JOURNAL is not in harmony, has been introduced into the post-mortems over the war-time cessation of merchandising activities by many gas companies.

This is the plaint of the appliance manufacturer who had confined his sales exclusively to those through gas companies, and who, when the gas companies ceased selling, had to radically curtail in manufacture and, notwithstanding, found himself cramped for storage space and lack of liquid assets.

At least one such manufacturer has given voice to the thought that the gas companies have done him a terrible injustice; that they, as a consequence, owe him especial consideration.

THE AMERICAN GAS ENGINEERING JOURNAL cannot see where any manufacturer does the gas industry any worth-while service when he sells his product to it exclusively.

We do not believe any appliance manufacturer adopted the policy of selling exclusively to gas companies with the idea that he was thereby doing them a service of any special value. We think, rather, that he did so with the idea of economizing on selling costs.

No particular manufacturer has a grievance against gas companies for the "quit-cold" attitude some adopted the first time they encountered a condition they could not completely fathom the consequences of. We believe every manufacturer would be justified in a policy of not staking too heavily on a creature of such weird reasoning as a considerable part of the gas industry manifested itself to be in the recent never-to-be-forgotten merchandising fiasco that the war brought about.

The injustice done was to those likely and deserving employees who, without real cause, found themselves suddenly dumped out of jobs which they had worked hard for and to attain which they had sacrificed considerably in the things that make for the brightness and variety of life.

It is contemptible, almost, for a manufacturer who had followed the wrong "hunch" in his sales policy to whine for "favored" consideration on the grounds that he especially was injured when some gas companies staged their "big stupidity."

War Record of Byllesby Utility Properties

The third edition (Jan. 1, 1919) of the National Service Record of H. M. Byllesby & Company and affiliated companies shows an increase of 256 men in the service since July 1, 1918, making a total of 951 so engaged, or 19.7 per cent of the organization's male employees. Only twenty casualties are recorded nine deaths, ten wounded men and one man missing in action. More than two and a half million dollars was subscribed by the organization and its employees to the four Liberty Loans, and they gave more than half a million dollars to various charities.

Fire Damages Chicago Plant

Many residents fled from their homes recently as a fire destroyed the power house of the Peoples Gas Light & Coke Company, of Chicago, Ill. Firemen became uneasy because of the proximity of two large gas tanks. Residents, fearing an explosion, fled from the district. Sparks from a furnace ignited an airshaft wall and firebrands floated close to the tanks. The damage to the building and its contents was estimated at $3,150.

Danbury and Bethel Company's Headquarters Enlarged to Take Care of Increased Business

The Danbury (Conn.) & Bethel Gas & Electric Light Company is enlarging and improving its headquarters at 238 Main Street. To make room for the increasing business being handled by the company, the offices on the second floor, which include the general bookkeeping and stenographers' offices, the office of G. Harold Davis, auditor, and the offices of the general collection department, are being removed from the second to the third floor of the building. The rooms on the second floor vacated by these offices will be fitted up for use as a gas and electric light fixtures display room. The model apartments which formerly were located on the third floor will be done away with because of the need of this additional room for the more pressing business of the company.

A garage is also being fitted up at the rear of the building, in which will be housed the large corps of trucks which the company now has in use.

F. H. Bivens Appointed New Manager of Southern Counties Interests in Santa Barbara

The Southern Counties Gas Company, the corporation which has recently purchased the interests of the Santa Barbara Gas & Electric Company, formally took charge of their new holdings. Owing to the fact that no desirable location has been found for the general offices of the company, headquarters will remain where they are for the present.

F. H. Bivens, formerly a Southern Counties man at Pomona, has been installed as manager of the Santa Barbara office. He has been with the Southern Counties company a number of years and has had a large part in many responsible transactions. According to Mr. Bivens, the office force here will remain practically the same.

Fifteenth Annual Meeting of the Illinois Gas Association Most Successful Ever Held

H. S. Whipple Elected President for the Ensuing Year — Papers Read on Timely Subjects and Covered Industry Well — Affiliation with the American Gas Association Contemplated

The fifteenth annual convention of the Illinois Gas Association held at the Hotel Sherman, Chicago, Ill., March 19 and 20, was called to order Wednesday at 10.30 a. m., with F. E. Luther, president, in the chair, and was one of the most successful ever held.

The attendance was large, over 270 registering the first day, and the papers read covered nearly all branches of the industry and on timely subjects. H. H. Clark, secretary, read the report of the directors' committee, which was approved. The following members were elected to membership:

Dudley Baker, Charles C. LeForgem, E. Chandler Beach, Emmett MacDonald, Nels P. Beckman, Robert B. MacDonald, D. W. Burtis, F. W. Marklin, Chester N. Chubb, Samuel N. Nims, William A. Dunkley, P. M. Spies, Fred A. Hammond, Eugene Ambler, Henry Lange, J. R. Day, Al. J. Murphy, Watson E. Derment, H. P. Rosmussen, Paul W. Jordan, S. S. Schintzer, R. H. Kruse, Robert J. Stewart, R. T. Cramer, Carl F. Witte, James Panyburn, Charles Harbison, James G. Waddick, Willard C. Wetmore, Fred E. Darr, George F. Grate, Gordon Cavanagh, C. S. Heath and John A. Dufresne.

The total membership of the association at the present time, including active, associate and junior members, is 540. The financial report showed the association in a very healthy condition.

The president's address followed, H. S. Whipple, vice-president, taking the chair.

The secretary read a letter cover-

ing the affiliation of the Illinois Gas Association with the American Gas Association. This was referred to a committee of three who were to consult with a member of the American Gas Association present and report at a later session.

Reports of the standing committees followed, all of which were approved.

F. M. Lester read a paper on "The New Business Department." In the discussion which followed, Mr. Kopfer, of H. L. Doherty & Company, stated that three years ago this firm established a research bureau giving special attention to gas for industrial fuel. It has been very profitable as a business getter, as they were able to take up various industries, study their needs and thus develop the proper units to meet the demands of each.

Mr. Knight, commercial manager of the Public Service Gas Company, also predicted a great future for gas industrial purposes. It was especially emphasized that the gas companies must put their commercial departments on a sound basis and a profitable one.

The gas companies should sell all kinds of gas appliances and should handle only those that would give the highest degree of efficiency and must protect their customers in so far as possible against the sale of inferior appliances as sold by department and other stores. In order to do this they must cultivate and get the confidence of all users of gas in the territory they serve, and to point out to them the advantages of buying the best appliances, which would largely do away with complaints and insure satisfactory results to the user.

At the afternoon session on Wednesday a paper was read by C. S. Heath on the "Effect of Various Condensing Systems Upon Quality of Gas." During the discussion of this paper Mr. Downing stated that it was very important to investigate the matter of condensing gas, as there were many systems that could be developed to obtain satisfactory results at a reduction of cost in manufacture.

C. C. Boardman read a paper entitled "Gas Plants and Distribution Systems Doing Added Duty." In discussing this paper Mr. Bates suggested that it might be advisable to offer an industrial user a lower rate to use the largest quantity of gas in the off-peak period, which would give sufficient pressure to the householder at all times. Mr. Boardman in closing the discussion stated that a reduced rate to an industrial user would have to be based on uniform amount to be used throughout the year.

The banquet was held at the Hotel Sherman Wednesday evening. C. A. Luther, chairman of the entertainment committee stated that as the association had not held a banquet in over two years, that the committee felt that it had to provide an entertainment on a three-to-one basis to make up for the two missing ones, and the universal opinion was that the committee had more than made good.

The second session opened with a report of the temporary committees, all of which were approved and placed on file.

The following officers were elected for the ensuing year:

President, H. S. Whipple, manager, Rockford (Ill.) Gas Light Company; vice-president, W. M. Willett, consulting engineer, Coal Products Manufacturing Company, Aurora, Ill., and H. H. Clark was elected secretary and treasurer.

A paper was read by Fenton Kelsey on "Merchandising."

E. J. Caspers delivered a paper on "Industrial Gas as a Tonic for Utility Companies."

It was conceded by all those discussing the paper that the future was very favorable for the gas companies increasing their industrial load, but it depended entirely on the intelligent manner the different companies went after the business. It was the opinion that the companies would make better progress if they would co-operate more closely with the industrial gas engineer, who could advise them as to the best methods of using gas as a fuel under the varying conditions in different classes of industries.

Salem, N. J., Gas Rates Increased

To provide additional revenue required to meet operating expenses, the Public Utility Commission has authorized the Salem (N. J.) Gas Light Company to increase its rates to $1.53 per 1,000 cu. ft. for gas consumed through regular meters and $1.50 net for gas served through prepayment meters. A discount of 5 per cent per 1,000 cu. ft. for payment within ten days will be made in the case of gas through regular meters.

Portsmouth Gets $1.40 Rate as Result of Compromise

The committee representing the citizens of Portsmouth, Va., and the Portsmouth Gas Company have reached an agreement under which the rate for gas is to be $1.40 per 1,000 cu. ft., this announcement having been made by Colonel S. Heth Tyler, counsel for the committee. The company had made application to increase the rate from $1.30 to $1.50 per 1,000, and a hearing was to be held before the State corporation commission, but the compromise which has been reached makes such a proceeding unnecessary.

Temporary Increase Granted Central Indiana Company

The Central Indiana Gas Company has been granted a temporary increase in its gas rates for Anderson, Marion, Alexandria and Elwood. The increase is approximately 10 per cent, and is to stand as a sort of experiment for the next nine months. The net rate to be charged for gas in Anderson and Marion fixed by the public service commission is as follows:

First 2,000 ft., $1.00; next 3,000 ft., 90 cents; next 45,000 ft., 80 cents; next 50,000 ft., 75 cents; all over 100,000 ft., 70 cents. Minimum bill $1.00 per month.

The net rate to be charged if bills are paid on or before the tenth day after rendition.

New rates for Alexandria and Elwood are as follows:

First 2,000 ft., 90 cents; next 3,000 ft., 80 cents; next 45,000 ft., 70 cents; next 50,000 ft., 65 cents; All over 100,000 ft. 60 cents. Minimum bill 90 cents per month.

The commission found that the existing rates for manufactured gas at Marion, Anderson, Elwood and Alexandria were unreasonable, insufficient and inadequate and temporarily should be increased. The commission further found that the increases authorized should be operative for a period of nine months, during which time an adjustment of present unsettled conditions may be expected, and an opportunity given to more intelligently determine the basis for rates.

United Gas Improvement Company to Engage in General Contracting and Road Building

Forms New Company with Paul Thompson at the Head to Handle Selling of Manufacturing Apparatus and By-products and to Take on Contracts for Road Building and Possibly Industrial Painting

Being optimistic of prosperity following the world peace and to properly prepare itself to fulfill the responsibilities expected of it, the United Gas Improvement Company has formed a new subsidiary which will be called the United Gas Improvement Contracting Company.

According to Paul Thompson, vice-president of the parent company and president of the new contracting company, the organization will not only engage in engineering construction problems, but will include an up-to-the-minute selling organization to take entire charge of the sale of by-products. The construction of manufacturing apparatus and the sale of by-products, which have heretofore been divided among several departments of the parent company, will in the future be handled by the new company.

It will engage in the construction and selling of water gas apparatus, vertical retorts, waste heat boilers and auxiliaries of various kinds. It will prepare engineering plans and furnish advice in connection with construction changes and betterments in gas plants, and make examinations and reports in connection with their operation.

It will also design and construct power plants and together with the sale of residuals of all kinds, will have a special road division competent to construct and maintain roads and highways under contract. It is expected that this latter phase of the work will be most important, for the reason that most communities are making very broad plans for the general improvement of their highways.

A new development of the company's work will be the making of paints, and it is probable that later on the contracting company will seek contracts for industrial painting.

The need for such an organization, according to Mr. Thompson, as this new United Gas Improvement Contracting Company, has been felt by the United Gas Improvement Company for some time. This work has grown to such proportions that it cannot be well handled by the parent corporation through the various departments.

The new company will have a greater freedom of action, and separated from the operating organization can take on a larger volume of work, and there will be a quickening of action when operated as a distinct company.

Mr. Thompson has been one of the leaders of these activities as carried on by the U. G. I. Company for a long time, especially in regard to road work, in which he has been particularly active. The other activities of the new company were divided among the other departments of the company, and this forming a new company centralizes all these activities which were heretofore dependent upon departmental co-operation.

The other officers of the new U. G. I. Contracting Company are J. A. P. Crisfield, vice-president, in charge of engineering, and D. J. Collins, vice-president, in charge of sales.

The working force will include many engineers and sales experts now connected with the parent organization, who have been engaged in these particular duties for a number of years. These men will be released by their departments to take up their new duties at once.

The offices of The U. G. I. Contracting Company will for the present be in The U. G. I. Building, Philadelphia.

Hearing Held on St. Louis County Rate Increase

The Missouri Public Service Commission held a hearing on Mar. 26 on the application of the St. Louis County Gas Company for continuance of the increased gas rates authorized by the commission last September.

Many in Attendance at the Eighteenth Annual Convention of the Wisconsin Gas Association

Raymond H. Smith Elected President—Practically Every Gas Company in Wisconsin Represented—John St. John Points Out that During War Gas Men Have Made Record to Be Proud of

Representatives of practically every gas company in Wisconsin were in attendance at the eighteenth annual convention of the Wisconsin Gas Association, held at the Hotel Pfister, Milwaukee, March 25 and 26.

Officers elected for the ensuing year are as follows: President, Raymond H. Smith, Sheboygan Electric Company; vice-president, Bruno Rahn, engineer with the Milwaukee Gas Light Company; secretary and treasurer, Henry Harmon, also of the Milwaukee Gas Light Company.

In addition to representatives from all the principal gas companies in the State, several Illinois men were in attendance at the sessions and also had some fine gas exhibits in the hotel.

New members elected to the association follow: Joseph L. Strinski, superintendent gas department, Wisconsin Public Service Company, Green Bay; A. J. Goedjen, statistician, Wisconsin Public Service Company, Milwaukee; Otto A. Voigt, auditor, Sheboygan Gas Light Company; R. H. Smith, general manager, Eastern Wisconsin Electric Company, Sheboygan; M. H. Frank, manager, Eastern Wisconsin Electric Company, Fond du Lac; Harry C. Kline, Eclipse Stove Company, Rockford; Emil J. Claus, president, Claus Automatic Gas Cock Company; Watson E. Wewent, Eclipse Stove Company; Howard E. Sweet, Beloit Water, Gas & Electric Company, A. L. Thurston, Beloit Water, Gas & Electric Company; A. H. Hikes, Wisconsin Valley Electric Company, Stevenspoint; J. H. Loritz, Manitowoc Gas Company; Henry E. Wenger, Wenger Armstrong Petroleum Company; J. Frank Stacey, president Stacey Manufacturing Company, Cincinnati; C. T. Chisholm, Welsbach Company.

Out of a membership of 173, a total of 115 attended the convention.

The new executive committee consists of John St. John, outgoing president; president Raymond H.

Smith and vice-president Bruno Rahn.

President St. John delivered a stirring address after the preliminary work had been disposed of. He pointed out that the record established by the gas men during the war was one of which they could be justly proud of. They subscribed, he said, to every Liberty Loan, War Stamp drive and other war campaigns to their limit, and were glad to help the Government win the war.

He viewed the year of 1919 with optimism, but called attention to several dangers that confront, not only the gas industry, but other fields as well. One of his principal arguments was that labor cannot withstand a cut in wages as long as the cost of living is kept up to its present standard, which he pointed out was too high. The prosperity and welfare of the employee must be maintained, Mr. St. John declared, if we are to dwarf unrest.

The president called particular attention to the extraordinary large supplies of coal on the docks, paid for at war prices, and asserted he had been informed that starting May 1 an increase of 15 cents per ton would be put into effect. New coal cannot be produced at the prices set by the Government without a loss, as the mine owners would go bankrupt, he said. Eighty-five per cent of the cost of producing and marketing coal goes for labor, Mr. St. John declared, and under these conditions there is not the remotest possibility of a decline in prices.

The president, in bringing to a close his able address, took the stand that taxation on utilities should be the same, and that capitalization should not be less than on an 8 per cent basis.

The use of bituminous coal for generator fuel was analyzed by R. G. Krumrey, of Beloit, Wis. J. H. Taussig, of Philadelphia, gave a report on vertical gas retorts; Professor O. L. Kowalke, of the University of Wisconsin, read a paper on "Observations on Gas Calorimeters," while R. O. Jasperson, of the Milwaukee Gas Light Company, discussed the "Future Sales Policies of the Gas Industry." J. P. Hanlon's paper, "Future Sales Policies of the Gas Industry and Their Justification," which was read at the national convention in New York, was also submitted at the Wisconsin meeting.

These last two papers were along the same lines, calling attention to the "ups and downs" of the sales department of gas companies. The discussions following the reading of the papers brought out some interesting facts about the sales end of the industry, and occupied a good portion of the morning of the second day's meeting.

Vice-president H. W. Johonott, of Monroe, Wis., summed up the whole situation in a nutshell when he said that the sales department was a vital, if not the vital, part of the gas industry. J. H. Taussig gave an elaborate description of what the gas men are up against and what they must do to preserve the years of energy attached to the gas business.

Service, he said, should be first, last and always in the minds of gas companies. Give the public service and you will benefit mankind, because the standard of living can be raised through the use of gas, Mr. Taussig declared. He emphasized the point that there is doubt in his mind as to whether the gas men are keeping before the public the essential uses to which gas can be put.

"Competition from electric companies should have no other effect than to prove an incentive to us to push our own business," Mr. Taussig asserted. "A discussion of what it costs to manufacture gas does not interest the public in the least, but the thing that counts is how can we better our service."

Occasional sales of gas appliances, similar to sales conducted in department stores of several kinds of articles would go a long way to boost the gas appliance business and educate the public to the many uses and advantages to which gas can be put in homes, was the consensus of other speakers during the discussion.

Following the adjournment of the convention, the members went to the club rooms of the hotel where they held a joint meeting with the Wisconsin Electrical Association. The two associations held a joint banquet Wednesday evening.

Brooklyn Borough Gas Company Shows Deficit for 1918

The Brooklyn Borough Gas Company in the report for the year ended Dec. 31 last, shows that total receipts from gas sales were $518,078, as compared with $434,646 in the preceding year. Net earnings from operations were $90,629, as against $114,709 in 1917 and a deficit of $148,048 was shown for 1918 as compared with $88,441 in 1917. Interest and taxes last year amounted to $173,414, as against $151,951 in the preciding year.

Chicago Company Will Have to Pay for Investigation of Excessive Bill Complaints

Notice has been served on the Peoples Gas Light & Coke Company that it will have to pay for the State public utilities commission's investigation of excessive gas bill complaints.

The commission has been paying about $100 a day in salaries to extra employees, who have been handling complaints. The gas company will have to pay this bill, the commission decided.

A. S. B. Little and W. M. Hammond of the commission had a conference with Samuel Insull, chairman of the board of directors of the gas company. Mr. Insull agreed to pay for the extra employees, although they will remain under the commission's orders.

Figures have been made up by the commission's men showing that there has been no decrease in the number of complaints on excessive bills.

The members of the commission still refused to talk about their action in reopening the gas rate increase matter. This is set for Apr. 7, and the company is expected to be deprived of the 27½ per cent increase allowed last July. The commission may set a new schedule entirely.

The price of gas to the bulk of Chicago's 600,000 consumers may go below the old rate of 72 cents. An effort is being made to complete the valuation now being made of the gas company's plant by the city in time to submit the results of the city's long and expensive inquiry to the State public utilities commission at hearing.

Chairman Samuel Insull of the directorate of the gas company has suggested that the State commission's action in ordering an inquiry into the necessity for the present high prices for gas, may be due to the fact that "it is possible the commission has some information to the effect that the cost of labor and materials has receded sufficiently to justify reviewing their previous decision of last year."

Duplicates of Meter Readings to Be Left with Syracuse Consumers

At a recent conference in the office of the Syracuse (N. Y.) Lighting Company between the president of the company, James C. DeLong, and several aldermen, the company agreed to establish as soon as possible a duplicate meter reading system.

The imperfect reading of the meters for the past three months has led to hundreds of complaints from customers who claimed to have been overcharged for gas and electricity.

The company has agreed that hereafter when a meter is read a statement will be left with the householder, which he will present at the company's office when the bill is paid.

Western States Gas Order

An order issued by the Railroad Commission to-day authorized the Western States Gas & Electric Company to withdraw from the custody of a trustee cash equivalent to the proceeds of the sale of $30,937.74 of bonds, the bonds being equal to 75 per cent of the company's expenditures of $41,116.99 on capital during December, 1918, and January, 1919. The bonds are part of an issue of $450,000 authorized by the commission last month and held subject to the orders of the commission.

Tools Are Hurled into the Air as Gasser Begins Belching

The Monitor Company's big gas well on the Wilford farm in the Douglass district, went on a rampage Feb. 27, shooting gas into the air with a roar that could be heard miles away. Several weeks ago when the gas was struck, the well "blew" for three days and bridged. Then it was reported it had blown itself out. As the crew was working the tools were shot out of the hole without warning, and the gasser, estimated at 100 million cu. ft., belched forth a stream of rocks, mud and gas. The members of the crew were "penned in" and their only means of escape from the rig was by wading through the slush pond. This they did, in mud and water up to their waists. Snow and sleet driven by a piercing wind was beating across the oil fields of Butler County, and the men nearly froze to death.

Central Indiana Company Asks Permission to Issue Bonds

The Central Indiana Gas Company, of Muncie, Ind., recently petitioned the public service commission for authority to sell $90,000 bonds to finance part of improvements said to have been made by the company to its property and said to amount to $113,000. The bonds will be part of an authorized issue of $5,000,000, of which $2,662,000 already is outstanding except $108,000, which has been retired. The original authorization was in 1911. The company asks leave to sell the bonds at 80 per cent. of par. The company supplies West Virginia natural gas to many central Indiana cities and also manufactures some gas to augment its supply.

Field Man Tells What He Told Them at Gas Lamp Factory at March Meeting of Gas Sales Association of New England

(*Continued from page 276.*)

the girl crawled inside of the mantle to tie the bottom loop but it was simple enough when I saw it accomplished. She ties that end first, and pulls the other end through. It was then stitched on the machine, and the ends tied, and you don't need to worry about that knot's coming loose.

In the room where they trim the mantles they still have one of the machines where they do one at a time, but now a machine has been developed where it is done automatically, and with great exactness. One thing I noticed particularly, there was no unnecessary noise in the room. The women were working—not talking.

I then went into the room where mantles were burned off, and learned how the commercial mantles were formed so symmetrically. I had an idea that they were forced over a die, but instead of that they were put in a machine that has a positive pressure blower, and a number of mantles are lowered into the flame, and with the gas coming on gradually, the pressure is increased until the mantle is properly "cooked," I should call it. There isn't any guess work about this, as the whole affair is automatic.

Seeing but Not Believing

The next room was where the mantles were dipped in collodion or preserving fluid, used to prevent injury in shipping. I did not believe that it was collodion because it didn't have the familiar odor, and I had to inquire what it was. It seemed to me that they were wasting perfectly good collodion, because the first vat was being emptied and it looked all right to my untutored eye, but to the eye of the expert it would not pass muster.

The mantles, which were in frames, went into the solution slowly and came out of it slowly, so as to prevent distortion of the mantle, I suppose. They were then shipped into the drying department. Here again the efficiency engineer had been getting in his work because there was no apparent heat, and I found by looking at the roof that the same plan was in effect as existed in the burning-off room where the heat was carried away by exhaust vents.

It seemed to me that there was an inspector for every operation, and I watched with a great deal of interest the selection of defective mantles, and to save my life I could not pick a flaw in some that were discarded, but when the defect was pointed out to me it was apparent.

I am describing this visit as I happened to be taken into the rooms, which were not in the progressive order of the manufacture of the mantles. I now went into the knitting room, I would call it, where the fabric was knit, and I saw silk, cotton and combination mantles. It is operated, of course, by machinery, and this part was very familiar to me because of experience in the South in the cotton mills.

Now I always thought that a New England housekeeper was about the worst crank on cleanliness that I had ever met, but she could obtain pointers from the manner in which this fabric is cleansed. It was soaked, soused, boiled, steamed and roasted, and was then finally put on long rods and passed through a bake oven.

The room where the fabric is impregnated with light-giving qualities was interesting. It was put in a centrifugal machine and whirled at a certain speed, so as to leave a uniform thickness of material, and at the rate the machine was revolving it seemed to me that the amount left

wouldn't seriously embarrass the company financially.

I learned a lesson in cleanliness about mantles. They are a very great deal more particular about the storing of the mantles than I am with my Liberty Bonds. They are sealed up and kept in a perfectly clean place, and if they are soiled we cannot charge it to the producers. My back was almost broken, and my eyes were tired, so I asked for a change of scenery, and we went to the treasurer's department where it was intimated that we could smoke without fear of ejection from the premises.

READINESS TO UTILIZE SUGGESTIONS

There I met the man who had invented a popular lamp, and we went into an executive session immediately. I wanted him to develop a semi, utilizing this burner, and I learned things about this particular appliance. I found him very eager indeed to get the viewpoint of a man at the other end of the business, and I spent a very profitable hour with him. I suggested what seemed to me to be an improvement on one of the parts. To my surprise, and I must add, delight, he approved of it heartily, and said that it would be developed.

Then I asked to see the man who had developed the semi-indirect, and I spent the next two hours getting under his hide. I had ideas about the semi-indirect, and so had he. Sometimes we coincided and sometimes we didn't, but when I was introduced, "as from Brockton," he said, "We don't know you, but we know who you are," so I immediately placed him as a diplomat, as well as a designer, but I made known my wants and wishes.

I wanted a fixture that the average housewife could remove the bowl for cleaning without disastrous results. I also wanted many other things—a smaller semi-indirect for bedrooms—and I wanted beautiful bowls, ornate fixtures and the elimination of the chain.

I believe I made him feel that the future of the gas lighting business rested entirely upon his shoulders, at least that's what I tried to do.

I told him that there were salesmen in the gas industry that were waiting for him to develop beautiful, costly fixtures for every purpose where artificial illumination for human beings was desired, and that it was his duty to create a demand for these appliances by making them so attractive that the gas men would be compelled to sell them.

I will not go into the details of the machine shop or other parts of the factory, as they are not of special interest, but I will mention the hospital, which has been provided for the use of the employees. It is modern in every respect, as hospitals go. To complete my trip, they took me to the photograph gallery, and took a record of my features, for the Rogues' Gallery or not I do not know, but I will say this, that that photographer is in keeping with the rest of the personnel of that organization.

It was the most profitable two days since I have been in the gas industry. I came away with renewed energy and implicit faith in the future of our gas lighting business, and it was not because of the personality or ability of the president and his executive family, because that would be expected, but because of the perfect harmony existing in the entire organization.

They possess the ability, have the financial backing, and are in every way in a position to supply any demand.

Is it not for us in the field to create a demand for workmanship that will place gas lighting in its rightful position before the public?

Hearing on Cambridge Rates Postponed

The Massachusetts Gas and Electric Light Commission recently continued until July 22 further consideration of the complaint regarding the cost of gas supplied by the Cambridge Gas Light Company. Commissioner Solomon Lewenberg dissenting. The complaint was made by the Mayor of Cambridge at a time when gas was selling at $1.15 per 1,000 cu. ft. While the case was pending the company voluntarily reduced the price to $1.10. Commissioner Lewenberg believes the price should be not more than $1.05 per 1,000.

Plymouth Gas Company Granted Increased Rate

The gas and electric light commission recently granted the petition of the Plymouth (Mass.) Gas Light Company to increase the price of gas supplied by that company from $2 to $2.75 per 1,000 cu. ft., the new price to become effective Mar. 15. The commission states, however, that a reduction will be made on Oct. 1, 1919, unless the company can show good reason why such reduction should not be made.

The $2 price was fixed by the commission on Oct. 10, 1918, but since that time the income of the company has been insufficient to meet expenses. The company was criticized during the winter for obtaining a large stock of coal of poor quality and at a high cost, but the commission believes the company was justified in preparing for any emergency following the coal shortage of a year ago.

Proposed Increase for Yakima, Wash.

The Pacific Power & Light Company of Yakima, Wash, has filed its schedule of proposed rates for gas, which amounts to a raise of approximately 20 per cent, according to announcement made by George C. Sawyer, manager. He says the increase is made necessary by the removal of restrictions on coal and a consequent increase in price. Rates now in effect, adopted Mar. 1, were an increase over former schedules. Under the new rates the initial rate for gas will be 80 cents for the first 1,000 cu. ft., as compared with the present rate of 65 cents.

Increased Rate Allowed St. Charles Company

The St. Charles Lighting Company, of St. Charles, Mo., last week was authorized by the Missouri Public Utilities Commission to increase its rates for gas service to the following schedule: $1.50 per 1,000 cu. ft. for the first 3,000 ft., $1.30 per 1,000 for the next 7,000 ft., and $1.10 per 1,000 for all gas over 10,000 ft. used by one consumer in one month. The company is to give a 10 per cent discount for prompt payment of bills and is permitted to make a minimum charge of 50 cents a month.

The new schedule is effective for one year from Mar. 20, 1919. At the end of the year the company must return to its present rates, according to the order of the commission. The State body reserves the right to terminate or extend at any time the period during which the advanced rates are to be effective.

The commission fixed a tentative valuation of $175,000 on the plant

of the St. Charles company for rate making purposes. The petition of the company claimed a valuation of $209,286 as of Sept. 20, 1918. The increase was requested on the basis of increased cost of coke and other operating expenses. The net return of the company in 1918 on the basis of the $175,000 valuation was 3.4 per cent, which the commission admits is "unreasonably low." The estimated return to the company on the basis of the new rates and the $175,000 valuation will be 6.2 per cent.

Work of the Technical Committee on Gas, By-products and Public Utilities

The serious shortage of Eastern gas coal and of coke for gas-making in Illinois and adjoining States during the winter of 1917-1918 was emphasized at the meeting of the Illinois Gas Association, March, 1918. Other industries had made unusual demands and had been given priority; high and uncertain prices during the previous summer and autumn had discouraged contracts and storage; rail transportation was congested and disarranged. The seriousness of the situation was of concern not merely to private interests but to the general public, which consumes gas for heating, lighting, and for important industrial uses. Some relief for the coming winter was thought possible if central district coals from Illinois, Indiana and western Kentucky could be used generally as a substitute for Eastern coal and coke in the manufacture of retort gas and water gas. Already a little Illinois and Indiana coal was being used under special circumstances in Illinois retort plants. Furthermore, successful experiments with mixtures of Illinois coal and Eastern coal had been conducted at the Decatur retort gas plant by F. K. Ovitz, of the U. S. Bureau of Mines and the Illinois Mining Investigations, with the advice and cooperation of a committee of the Illinois Gas Association, of which E. H. Taylor was chairman. A fair yield of gas and of usable coke had been obtained from various mixtures of coal, and the results had just been published and were discussed at the meeting of the Illinois Gas Association. Consequently, it seemed desirable to continue experiments with central district coal in gas retorts, and with coal as a substitute for coke in water-gas generators, and to give publicity to the results and technical assistance to companies desiring to use central district coal.

Other matters, of national importance, were the prospective shortage of toluol and of ammonia for the manufacture of explosives, and the possibility of encouraging recovery of additional amounts from some of the plants in central States which were not contributing these substances.

Organization and Function of the Committee

Following the meeting of the Gas Association, conferences were held by some of its members with representatives of the State Geological Survey, the Bureau of Mines, and the University of Illinois, and later, with Dr. F. C. Honnold, District Representative of the U. S. Fuel Administration and his Bureau of Gas, By-products and Public Utilities. As a result, Governor Frank O. Lowden, on Apr. 25, 1918, appointed a Technical Committee constituted as follows:

E. A. Holbrook, F. K. Ovitz, U. S. Bureau of Mines; F. W. DeWolf, G. H. Cady, State Geological Survey Division; Dean C. R. Richards, Prof. S. W. Parr, University of Illinois, Engineering Experiment Station; C. W. Bradley, R. B. Harper, Illinois Gas Association.

Later, on recommendation of the committee, Governor Lowden appointed O. P. Hood, Chief Mechanical Engineer, Bureau of Mines, replacing Mr. Ovitz, who was no longer available; Professor H. H. Stoek, Head of the Mining Department, University of Illinois, and chairman of the Conservation Committee of the State Fuel Administration; W. W. Odell and W. A. Dunkley, Gas Engineers of the Bureau of Mines and the Geological Survey, respectively.

The committee was organized with F. W. DeWolf, chairman, and E. A. Holbrook, secretary; and its function was determined to be advisory to the U. S. Fuel Administration regarding the priority needs of gas companies for special coals and coke, and the usability of coal from central district mines; also, advisory to the Illinois Mining Investigations, Gas Section, in a program of special investigation of, and experiment with, central district coals, the results of which would be distributed through the Fuel Administration.

Early and practical results were sought by the committee, with a view to avoiding or at least minimizing difficulties in obtaining a fuel supply for gas companies during the winter of 1918-19. A secondary, but important desire was to bring about the permanent use of central coals in the central district, if practicable, in order to save high cost and freight charges for distant coal and coke. Experiments not bearing directly on the immediate problem were not contemplated.

The committee assisted in preparing a questionnaire which was sent by the Bureau of Gas, By-products and Public Utilities, to all coal-gas companies in "Zone C" of the U. S. Fuel and Railroad Administrations, and served to show the apparent fuel needs of the companies. Approximately 1,850,000 tons of Eastern gas coal and 555,000 tons of coke were required. The replies also indicated the extent to which central district coal had been formerly used, its source, and the nature of operating difficulties experienced with it. This information assisted the Technical Committee to outline an experimental program on fuel for coal retorts.

Work of the Gas Section, Illinois Mining Investigations

It appeared, however, that approximately 66 per cent of the gas manufactured in Illinois, and 42 per cent for "Zone C" was water-gas rather than coal-gas, and consequently the committee determined to place emphasis on experiments on coal as generator fuel. Approval was given to plans of the Gas Section to visit coal-gas plants which had used central coals with or without success, and to study the extent to which coal had been used in water-gas generators, in order to publish available information which might encourage further experiments by gas companies, pending results of experiments by the Gas Section. Detailed programs were approved for experiments with coal for gas retorts and with coal as generator fuel, but the latter was made first in importance. Recommendation was made that promising coals should be sampled and analyzed in order that low-sulphur coals might be listed for the information of the Fuel Administration and of gas companies. Study of the fusibility of coal ash and its effect on clinkering was also recommended.

The work of the investigations, re-

lating for many years to coal resources and to safety and efficiency of mining practices, was expanded by the addition of a gas section. Each of the three agencies, the Bureau of Mines, State Geological Survey Division, and Engineering Experiment Station of the University of Illinois, contributed to the program. The Illinois Gas Association agreed that its money for research fellowships at the University of Illinois might be used if necessary. The Bureau of Mines assigned to the experimental work a gas engineer W. W. Odell who had graduated in chemical engineering at the University of Michigan in 1907 and had been in operating practice as chemist or as superintendent for ten years, chiefly in Spokane, Washington. The Survey secured as gas engineer, W. A. Dunkley, a graduate in chemical engineering at the University of Michigan in 1908, holder of its gas fellowship, and later in active practice at Lansing, Michigan, and Atlantic City, New Jersey, as chemist or as superintendent. He had also had two years' experience in the Bureau of Standards before taking up the work in Illinois.

The sampling of coal in order to compile a list of low-sulphur mines was undertaken in Illinois by G. H. Cady, geologist, in charge of coal investigations for the Survey, assisted by C. R. Schroyer, and in Indiana by Thomas Fraser of the Bureau of Mines. Analyses were made in the laboratory of the University of Illinois and in that of the Bureau of Mines at Pittsburgh, where also determinations of ash fusibility were made by W. A. Selvig.

Messrs. Dunkley and Odell collected information from gas plants, prepared plans for experiments, and carried out experiments during four months at the Streator plant of the Public Service Company of Northern Illinois, through the courtesy of C. W. Bradley, gas engineer, and James Carswell, superintendent. Besides conducting investigations at Streator, the engineers made examinations and gave formal recommendations at seventeen plants in Illinois, and seven in Iowa, Wisconsin, Missouri and Indiana.

Apparatus was furnished by the Bureau of Mines and by the Mining Department and the Chemical Department, University of Illinois. The University also assisted the other agencies in meeting necessary expenses of travel.

PUBLICATIONS AND FUTURE WORK

Results of work done by the Gas Section, Illinois Mining Investigations, under the advice of the Technical Committee, were pushed to early publication until the signing of the armistice lessened the importance of speed as a war measure. The first two publications listed below were distributed by the Regional Director of the U. S. Fuel Administration, through the Bureau of Gas, By-products and Public Utilities. The others were distributed by the Geological Survey.

Bulletin 21. The manufacture of retort coal-gas in the Central States using low-sulphur coal from Illinois, Indiana and western Kentucky (October, 1918).

Bulletin 22. Water-gas manufacture with central district bituminous coals as generator fuel (October, 1918).

Bulletin 23. Mines producing low-sulphur coal in the central district (February, 1919).

Bulletin 24. Water-gas operating methods with central district bituminous coals as generator fuel (March, 1919).

Continuation of the work of the Gas Section seems desirable in order that the economies of the methods developed at Streator may be extended and adapted to the use of similar plants, which operate for short periods, as well as to other plants which operate continuously, and which may encounter new difficulties. The economy promised by the use of central coals is believed to warrant further experiments even though the war situation has passed. In addition, the use of local coal in retort plants and the solution of certain problems of gas purification will probably be undertaken at an early date. Suggestions regarding other practical problems confronting the gas industry will be gratefully received.

Inquiries and suggestions should be addressed to Gas Section, Room 305, Ceramics Building, Urbana, Illinois.

New Bern Company to Move Headquarters to Goldsboro

S. W. Brown, general manager of the New Bern (N. C.) & Goldsboro Gas & Fuel Companies, recently spent a few days in Goldsboro in the interest of the company.

Mr. Brown stated that his new business home on Pollock Street, Goldsboro, is about completed, and that he hopes to commence moving shortly. The new headquarters of the company is to be very attractive.

Massachusetts Utility Commission Further Enhances the Reputation It Has Earned for Intelligent Regulation

A hearing has just been held and decision reached by the Massachusetts Board of Gas and Electric Light Commissioners on the petition of the Worcester Gas Light Company. From June 30, 1912, to April 1, 1917, the company sold gas for 75 cents per 1,000 cu. ft. Since that time the price has been raised to 80 cents, 95 cents, and finally to $1.15. In each case the mayor made investigations as to the justification for such increases, but no complaint was filed until the last price, $1.15, was fixed. The complainant, supported by exhaustive analysis, contended that even taking into account present unprecedented prices of coal, oil and labor, a price of $1 was sufficient to cover all reasonable operating costs, a proper provision for depreciation and a fair return. On the other hand the company contended that the price of $1.15 is not only justified, but is actually insufficient to make an adequate provision for depreciation and to yield a fair return. In other words, the city expert testified that the company might make and deliver gas at a cost of 81 cents, and that at a maximum selling price of $1, the net earnings applicable to interest and dividends would exceed $228,000 a year. The company showed, first by estimate and later by the actual costs for April, May and June of last year, that the unit cost of delivered gas was 89 cents, and that increases in wages, freight on coal and oil, taxes and insurance which have become effective since July, will add at least 5 cents more to this cost, and at a selling price of $1.15, the net earnings of the current year will not exceed $225,000 to meet interest, depreciation and dividends. The problem which had to be decided was not the final conclusion as to the fair price at which gas should hereafter be sold in Worcester, but rather, the extent of the relief needed by the company to meet the existing emergency.

In 1912 the company voluntarily

reduced its price to 75 cents. Only one other company in this State had made its price so low. It was done with the reasonable expectation that, by the increased demand created by the low price, and by improved methods and economies in production gas might be sold at narrower margin of profit per unit and yet yield an adequate return to the company. To handle the increase in output, and to secure the improvements and economies in production, the company immediately started to enlarge the capacity of its works. But, after thoroughly committing itself to this policy and long before the necessary construction could be completed, the war introduced delays in construction and difficulties in operation which could not have been anticipated. The result has been that the company has not only not yet had the advantage of the projected improvements and economies but has had for a much longer period than was expected the disadvantage and additional expense of operating its work, encumbered by the construction in progress, and has had to meet besides the high cost of labor and materials common to all gas companies. The policy which the company adopted and has necessarily had to pursue, in spite of unfavorable circumstances, is of vital importance to the community. It is well conceived, it will yet demonstrate its soundness when normal conditions are restored. Admittedly the period which has elapsed was insufficient, and the times too abnormal, to permit of any fair conclusion on that question. The costs of making and delivery of gas shown by the company's figures were criticized not because not actually incurred, but because they were claimed to be in certain items abnormal. These items related chiefly to the wages at the works and to repairs and renewals. Computed in units of gas sold, they involve the whole difference between the two parties. The items of cost mentioned are larger than is to be accounted for merely by the increases granted the individual employees, or in the increased cost of materials. Criticism of them was natural. The Board was satisfied that they were due to the difficulties and embarrassments to the plant's operations already described, and must be met whatever their occasion. As the conditions at the plant improve it may be expected that they will disappear, but it is unlikely that the costs of the present year will be substantially affected. Briefly, the Board was not convinced that the company's costs are unreasonable in view of existing abnormal conditions, so largely beyond the company's control, and it would be unwise and inexpedient to reduce a price established by a well-managed company to meet a temporary emergency and at a critical time in the company's history, upon opinion evidence merely, of possible lower costs under less disturbed conditions.

The company has for many years been one of the most successful and prosperous companies of the State, and while selling gas on as favorable terms as any, has earned and paid liberal dividends. Two-thirds of its outstanding capital stock of $1,400,000 was issued at premiums aggregating $850,000, the last four issues being paid in at $200 a share. When it increased its price on April 1, 1917, it reduced its dividend to 4 per cent per annum, and this is still the rate. It was estimated that at prevailing rates interest will amount to $109,396 for the current year. At the price in issue, the net earnings this year will be insufficient to pay interest on its debt, and as much as 6 per cent on the aggregate capital and premium furnished by the stockholders, even were it assumed as contended by the city, that depreciation is amply covered in the repair and renewal charges. In view of all this, and especially of the low price which the people of Worcester enjoyed from 1912 to April, 1917, and now owing to high cost of labor and material, and failure of increased prices to yield a reasonable return on the company's stock, the Board from the standpoint of fair dealing did not feel justified in ordering an immediate reduction of prices. On the other hand there was such a great probability of steady improvement in conditions that a reduction to at least $1.10 should be made in July, 1919. Accordingly the Board voted "That the price of gas sold and delivered by the Worcester Gas Light Company be reduced on or before July 1, 1919 to $1.10, and that the company shall, out of the earnings of the current year, set aside and add to surcharge a sum of not less than $60,000 to make good the payment of dividends not earned prior to April 1, 1917."

Empire's New Home Largest Building in Oklahoma

Big Formal Opening Mar. 21—Building Thrown Open to Public

The Empire Companies and other Doherty interests in Bartlesville are housed in the largest office building in the State of Oklahoma. It might be added that as far as convenience is concerned very few buildings in the country are its equal. Fully eight hundred persons are employed in the structure. Despite its size, not all of the members of the Empire organization have offices in the building. Two whole floors of the First National Bank Building, just one-third of the space formerly occupied, have been retained.

There are 125,000 sq. ft. of floor area, exclusive of the ninth floor, which is occupied by the different Masonic bodies in the city of Bartlesville. According to the most accurate figures obtainable, the amount of floor space is fully 15,000 more than any other office building in the State.

If there have been any labor-saving devices omitted in the construction of the new office building they have not been invented. High-speed elevators (not the kind that makes walking a time-saver), automatic telephones and an enunciator system have all been installed. Then, there are pneumatic tubes to carry papers. Besides the general information desk in the main lobby, on every floor there is an information station presided over by a competent woman. Probably the most important innovation is the pneumatic tube system for the purpose of transmitting papers and messages from department to department. Each floor is equipped with a pneumatic station located on the east side of the elevator. A woman at an information desk is in charge of each station and a messenger boy answers all signals from the offices on the floor.

A first-class enunciator system has been installed at each station connecting with all offices on the floor. When a department wishes to send papers to some other office a button is pushed which registers a signal on the enunciator at the floor station. The boy answers and the papers are taken to the station. They are placed in the large tube capsules directed to the proper floor. In five seconds the capsule

is at the central station on the first floor of the building, and five seconds later it reaches the floor to which it is directed. All matter placed in the tube is cleared at the central station.

Another interesting time-saving feature is the automatic telephone system installed to take care of all internal telephone communications; calls may thereby be made direct without having to go through main switchboards. This board will handle all outgoing and incoming calls only.

Each floor has two water fountains supplied from a cistern of 90,000 gal. capacity located in the rear of the building. This will insure an adequate supply of pure drinking water at all times.

The Empire's great wire system which radiates from the new general offices is worthy of mention. There are larger buildings by far, of course, and there also are structures that contain many more individual telephones in the large commercial centers of the United States, but in very few are found the many complete details.

To begin with, every office in the structure is connected direct, locally with all the telephones in Bartlesville. There are hundreds of miles of privately owned and leased wires which extend as far south as Gainesville, Tex., and as far north as Kansas City, not to mention every city of importance in the mid-continent field. In addition, each phone is connected to the thousands of miles of territory covered by the commercial telephone systems.

In addition to all this is the automatic system which centers in the building and makes it possible for almost instantaneous communication. This system comprises equipment for 250 wires and telephones, and connects outside of the building to the garage and other offices not in the building.

It is said to be as nearly faultless as the other system, without the incidental troubles. There is said to be only one other automatic system in the State of Oklahoma, which is not nearly so large nor as efficient.

It takes eight rooms on the fifth floor in the structure to house the telephone and telegraph service. The telephone system occupies two rooms. In one a 300-line switchboard is placed, which keeps a force of eight operators busy, four on each shift. There are twenty trunk lines radiating from the office and twenty field lines of the company to distant points.

In keeping with the occupancy of the largest office building in the State of Oklahoma, the Empire Companies and other Doherty interests in Bartlesville planned a big celebration in honor of the event March 21. The entire building from top to basement was thrown open to the public.

A general invitation was given to all the residents of Bartlesville to attend during the day.

There were unusual features outside of the regular inspection. There was band music during the day and a continuous picture show in the men's club room. M. B. Faidley, special photographer, had charge of the exhibition. Every phase of activity of the Doherty interests over the whole country was depicted.

The elevators of the building did not stop between floors but were operated between the main lobby and the ninth floor. Considering the number of visitors expected, it was not believed that the service would begin to be adequate, so this measure was decided upon.

At 8 o'clock the doors were closed and only employees and their families and the invited guests were admitted after that time. There were orchestras to furnish music for dancing, and the Empire band gave a concert. The whole entertainment was strictly informal.

Personal Notes

A Correction

In the March 8 number of the AMERICAN GAS ENGINEERING JOURNAL, C. A. Runyan, president of the South Haven (Mich.) Gas Company was reported as having died from complications following influenza. This should have read Arthur C. Runyan.

JOHN H. HARTOG has been selected successor to Sam C. Bratton as sales manager and head of the advertising and publicity departments of the Portland (Ore.) Gas & Coke Company, according to announcement made by H. M. Papst, general manager of the firm. Mr. Bratton recently left for New York.

ARTHUR GRAHAM GLASGOW, of Richmond, Va., one of the most distinguished gas engineers of the United States, has been appointed administrator of the United States fixed-nitrogen administration, under the inter-departmental control of the secretaries of war, navy, interior and agriculture. United States nitrate plants were built with the greatest urgency to meet military necessities, which demands were extinguished with the signing of the armistice. Benedict Crowell, assistant secretary of war, has announced the acceptance by Mr. Glasgow of appointment as administrator to direct operation of these plants at their maximum peacetime value, maintaining and enhancing their war efficiency. This involves new problems in fertilization and requires not only constructive but creative work. The Government's fixed-nitrogen interests now are supervised by the nitrate division of the ordnance department, but will be surrendered to the civilian administration as soon as Mr. Glasgow completes its organization.

STEWART MURRELL, 32 years old, assistant treasurer of the Kansas Gas & Electric Company, died recently after an illness of influenza. Mr. Murrell had many friends in Wichita and had lived here several years. He became ill of influenza some time ago but recovered. Death was due to a second attack.

WILLIAM H. SMITH, a foreman of the Brooklyn Union Gas Company, died Mar. 14 at his home, 387 Himrod Street, Brooklyn, at the age of forty-one.

THE NEWBURYPORT GAS & ELECTRIC SOCIAL CLUB met recently and organized by the choice of these officers: President, Frank Russell; vice-president, J. P. Pearson; recording secretary, Fred W. Parsons; treasurer, A. W. Piper. Directors, Frank Russell, George Dixon and Frank Creedon. Entertainment committee, George Stone, J. P. Pearson, Irving Winder. The object of the club is to maintain reading and assembly rooms for the social and educational welfare of the members. Any person interested in the electric or gas industries and not an employee of the company is eligible to become an associate member.

Construction Notes

Plan Construction of Coke Plant at Granite City

Plans for the immediate construction of a ten-million-dollar coke plant at Granite City, Ill., near St. Louis, have been announced by interests which will use Roberts ovens for coking exclusively. The Illinois coal project has been in process of formation for two years. Action is now assured by George W. Niedringhaus, vice-president of the National Enameling & Stamping Company, and Clem Studebaker, of the Studebaker Corporation, South Bend, prime movers. A 200-acre tract has been purchased.

Chicago Company Starts Construction on New Plant

The Peoples Gas Light & Coke Company, of Chicago, Ill., has started construction upon its new $15,000,000 gas and coke plant to be erected along the Drainage Canal. The first step is the erection of a huge gas tank with a capacity of 10,000,000 gal. on the west side of Crawford Avenue. This will comprise the first section of the huge plant contemplated by the company, which when completed will have a productive capacity of 50,000,000 cu. ft. of gas and 1,000,000 tons of coke yearly. The work of construction will extend over three to five years.

New Gas Plant at Oakland, Cal., Nearing Completion

The Pacific Gas & Electric Company is making an expenditure of $1,250,000 for new apparatus and extensions required by the growth of Oakland, Cal., during the past two years. The company reports 25,000 new consumers during the same period. The capacity of the new gas machine outfit will be 6,000,000 cu. ft. of gas every twenty-four hours. The cost of this improvement was $175,000, and the cost of the new steel frame gas building was $25,000. The company has also put in auxiliary apparatus, compressors and purifiers amounting to $201,000, and new pipe lines for distribution at a cost of $462,000. A new briquette plant, just completed, cost $50,000.

Fargo Gas Company Capacity Increased

Construction work at the gas plant of the Union Light, Heat & Power Company, at Fargo, N. D., has been completed, including the installation of two new benches of sixes, a new exhauster, a tar extractor, a pressure booster, condensing equipment and an increased purifying capacity. The plant now has a manufacturing capacity of 540,000 cu. ft. of gas per twenty-four hours.

Many Manufacturers Represented at Exhibits of Illinois Gas Association Convention

Lack of space at the Illinois Gas Association convention in the Hotel Sherman at Chicago prevented any elaborate exhibits. Nevertheless, most of the large companies represented gave splendid evidence of their products in the booths assigned to them just off the convention hall on the second floor of the building.

The Connelly Iron Sponge & Governor Company demonstrated their respirating and first-aid outfit, together with other gas company appliances. R. B. Hayward, New England manager of the company, and A. L. Smiley, the Chicago manager, were in charge of the exhibit.

R. L. Moore, of Chicago, representing the H. Mueller Manufacturing Company, of Decatur, Ill., greeted the patrons of that company in charge of a neat display of water, plumbing and gas brass goods.

A splendid assortment of high-grade fuel and gas oils was exhibited by the Acme Petroleum Company, of Chicago, under the direction of B. Lundberg.

The Dayton Manufacturing Company, of Dayton, Ohio, interested the convention visitors with their "Hutchins Water Heaters."

A. I. Wallace and T. E. Grand had charge of the gas fixture and appliance exhibit of the General Gas Light Company, of Kalamazoo, Mich.

The "gasteam" idea prevailed in the exhibit of James B. Clow & Sons. Quite an elaborate display was presented.

A capable demonstration of "Emco" meters characterized the booths of the Equitable Company, of Pittsburgh, Pa.

The Illinois Specialty Company, of Bloomington, Ill., made a feature of its "Circo" heater. W. M. Belt had charge of the exhibit.

Oxweld supplies were taken care of in the booth assigned to the Oxweld Acetylene Company by G. D. Seaton, manager of their supplies department in Chicago.

"Kompak" automatic water heaters were the chief features of the Long-Landreth-Schneider Company, of New Brunswick, N. J. H. J. Long, president of the company, and D. W. Pennington, of the Chicago office, were in charge of this exhibit.

The Perfect Combustion Company, of Chicago, exhibited the "Nu-Styl" odorless gas iron as a complete solution of the ironing problem, together with numerous other appliances for which they are the distributers. Herbert H. Lackey, sales manager of the company, was in charge of the exhibit.

Ira C. Misner, representing the Milwaukee Gas Specialty Company, exhibited the advantages of the "Rutz Lighter," a valuable gas-stove appliance.

The Johnson Gas Appliance Company, of Cedar Rapids, Iowa, had a number of interesting gas burners on exhibit, in addition to their Johnson gas burners demonstration.

Calorimeters and determinators comprised the exhibit of the Sargent Steam Meter Company, of Chicago.

Five representatives of Rathbone, Sard & Co. were on the floor looking after visitors to their exhibit of "Acorn" ranges. They were: George Melspaugh, of the Philadelphia offices; W. C. Quinn, J. J. Toomey, R. W. Lynn and Russell Sard.

Acme rotary positive blowers and rotary vacuum pumps were the chief features of the exhibit of the P. H. & F. M. Roots Company, of Connersville, Ind. J. B. Patterson, of Chicago, was in charge of the exhibit.

The United Lead Company and the Raymond Lead Works products were in charge of H. B. Cohn, of New York, and L. B. Gallison, of Chicago.

The Reliable Stove Company, the Eclipse Gas Stove Company and the Estate Stove Company had splendid stove exhibits.

The Welsbach Company prod-

ucts were in charge of M. E. Smith, of Chicago.

F. W. Carnet, of Chicago, was in charge of the Foxboro Company products.

The American Meter Company had a very elaborate display of meters.

Big Acreage Purchased in North Louisiana Field

New capital has been introduced into the North Louisiana oil fields by the acquisition of large acreage by California and New York interests, who are giving particular attention to the new Claiborne field. Announcement has been made by Charles L. Fulton, field superintendent of the Hudson Oil Company, who also represents interests of the Queen Oil Company, that he and B. V. Hole of the Dawson & Hole Company of New York, have acquired possession of 842 acres in Claiborne Parish. The holdings are about five miles northwest of the discovery well of the Consolidated Progressive Company, and operations thereon are expected to start within sixty days.

Mr. Fulton has also purchased for the Dawson & Hole Company 7,000 acres in Sabine Parish, lying between Loring and Many, La. The interests he represents, according to his announcement, have also bought 1,200 acres in Bienville Parish, which is south of Claiborne, and are preparing to close on lands in the Cotton Valley section.

Modesto Gas Earnings

The Modesto (Cal.) Gas Company reports earnings for the year ending Dec. 31, 1918. The figures set forth in the inclosed statement are considered remarkable, it being one of the few companies operating in the State whose net earnings actually showed an increase over those of 1917, this in the face of the highest cost of labor and materials ever experienced:

	1918	1917
Gross earnings	$68,224.34	$55,025.17
Operating expenses, including depreciation	49,908.06	37,782.93
Net income	$18,316.28	$17,272.24
Bond interest	3,300.00	3,300.00
	$15,016.28	$13,972.24

The company is earning in excess of 4.5 times interest charges after depreciation.

THE AMERICAN GAS PRODUCTS COMPANY, Boston, Mass., gas products; capital $50,000; incorporators Sophia R. Knights of Brighton, Philip N. Pike of Lexington and Frank R. Kimball of Brighton.

THE AMERICAN GAS COMPANY'S report for the year ended Dec. 31, shows gross earnings of $6,524,069 against $5,287,706 in 1917, and net earnings of $1,784,664 contrasted with $2,052,209. Surplus after all charges was $84,003, equal to 1.07 per cent on the $7,804,000 capital stock as against 5.6 per cent in 1917, and 10.1 per cent earned on $6,449,200 capital stock in 1916.

THE PRODUCERS' GAS COMPANY, operating in Bakersfield, Kern County, Cal., had a net corporate income of $3,801.96 last year and declared a dividend of $5,000 on capital stock of $50,000 according to the report made public.

THE SOUTHERN CALIFORNIA GAS COMPANY'S annual report for the calendar year 1918, shows a corporate income of $205,509 and the surplus was increased from $165,623 to $308,269.

Full report of income follows:

Operating revenue	$2,096,530.07
Operating expenses	1,665,553.22
Net operating revenue	$430,976.85
Non-operating revenue	13,741.14
Gross corporate income	$444,717.99
DEDUCTIONS	
Non-operating revenue deductions	$5,503.86
Interest accrued on funded debt	209,460.00
Other interest deductions	11,645.50
Miscellaneous deductions	12,598.92
Total deductions	$239,208.28
Net corporate income for year	205,509.71
Dividends	13,125.00
Miscellaneous deductions from income	49,738.35
Surplus on Dec. 31, 1917	165,623.51
Surplus on Dec. 31, 1918	308,269.87

THE WAYLAND OIL & GAS COMPANY gross earnings for 1918 were $463,531, against $461,437 in 1917.

THE LEITCHFIELD NATURAL GAS COMPANY, Frankfort, Ky.; capital $10,000. Incorporators: James S. Darnell, Marvin Darnell and Randolph Darnell.

THE FAYETTE COUNTY GAS COMPANY reports for 1918 gross earnings of $539,779, compared with $575,650 in 1917. After all charges, dividends and $60,229 depreciation, there is a deficit shown of $46,904.

THE KANSAS GAS & ELECTRIC COMPANY reports earnings for January, 1919 and comparison as follows:

		Increase
Gross	$253,654	$53,797
Net	85,545	18,332
Bal. after charges	43,820	7,010

THE UNIVERSAL ELECTRIC & GAS COMPANY, of San Francisco, has issued the following condensed balance sheet for the year ended Dec. 31, 1918:

ASSETS	
Total fixed capital	$2,098,655.74
Cash and current assets	2,174,646.59
Unamortized discount on securities and expense	4,269,448.09
Miscellaneous	2,258.14
Total	$8,545,006.56
LIABILITIES	
Capital stock	$5,000,000.00
Funded debt	2,500,000.00
Accounts payable	720,102.91
Interest and taxes accrued	36,885.24
Reserves	163,760.38
Income invested since Dec. 31, 1912, in fixed capital	124,258.03
Total	$8,545,006.56

INCOME AND PROFIT AND LOSS ACCOUNT

(Dec. 31, 1918)

Operating revenue	$332,483.35
Operating expenses	294,691.95
Net operating revenue	$27,791.40
Non-operating revenue	120,919.45
Gross corporate income	$148,710.85
DEDUCTIONS	
Non-operating revenue deductions	$3,176.21
Interest accrued on funded debt	125,000.00
Total deductions	$128,176.21
Net corporate income for year	20,534.64
Miscellaneous additions to income	53.17
Miscellaneous deductions from income	20,587.81

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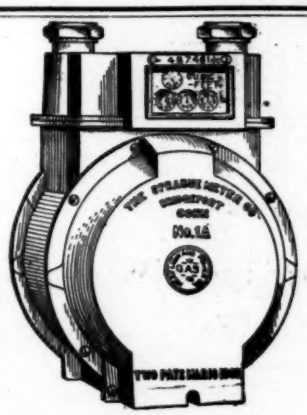

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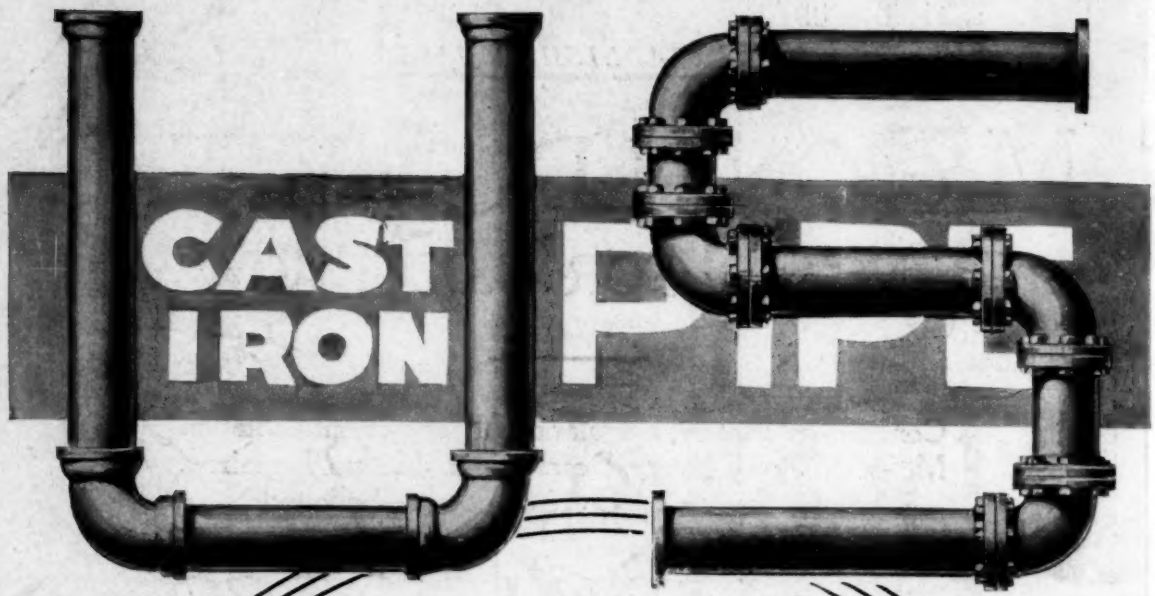

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